

# Featured Publication List

(2021.01-2021.12)

1. Zhang, H., Wang, H., Shen, X., Jia, X., Yu, S., Qiu, X., Wang, Y., **Du, J.\***, **Yan, J.\***, **He, J.\*** (2021) The landscape of regulatory genes in brain-wide neuronal phenotypes of a vertebrate brain. *elife* 10:e68224.
2. Jiang, M., Wang, M., Shi, Q., Wei, L., Lin, Y., Wu, D., Liu, B., Nie, N., Qiao, H., Xu, L., Yang, T., **Wang, Z.\*** (2021) Evolution and neural representation of mammalian cooperative behavior. *Cell Rep.* 37: 110029.
3. Zheng, Q., Zhou, L., **Gu, Y.\*** (2021) Temporal synchrony effects of optic flow and vestibular inputs on multisensory heading perception. *Cell Rep.* 37: 109999.
4. Yang, K., Shi, Y., Du, X., Wang, J., Zhang, Y., Shan, S., Yuan, Y., Wang, R., Zhou, C., Liu, Y., Cai, Z., Wang, Y., Fan, L., Xu, H., Yu, J., Cheng, J., Li, Fei., **Qiu, Z.\*** (2021) SENP1 in the Retrosplenial Agranular Cortex Regulates Core Autistic-Like Symptoms in Mice. *Cell Rep.* 37: 109939.
5. Chen, Z., Zhang, Z., Zhang, W., Xie, T., Li, Y., Xu, X., **Yao, H.\*** (2021) Direct and indirect pathway neurons in ventrolateral striatum differentially regulate licking movement and nigral responses *Cell Rep.* 37: 109847.
6. **Mao, D\*.**, Avila, E., Caziot, B., Laurens, J., Dickman, J.D., Angelaki, D.E. (2021) Spatial modulation of hippocampal activity in freely moving macaques. *Neuron* 109: pp.1-14
7. Mu, D., **Sun, Y.\*** (2021) Circuit mechanisms of itch in the brain. *J. Invest. Dermatol.* 142(1):23-30.
8. Lu, B., Lou, S., Xu, R., Kong, D., Wu, R., Zhang, J., Zhuang, L., Wu, X., He, J., Wu, Z., **Xiong, Z.\*** (2021) Cerebellar spreading depolarization mediates paroxysmal movement disorder. *Cell Rep.* 36:109743.
9. Sun, S.#, Li S.#, Luo, Z.#, Ren, M., He, S., Wang, G., **Liu, Z.\*** (2021) Dual expression of Atoh1 and Ikzf2 promotes transformation of adult cochlear supporting cells into outer hair cells. *eLife.* 10:e66547.
10. Hasanpour M.; Mitricheva E.; Logothetis N.; **Noori H.R.\*** (2021) Intensive longitudinal characterization of multidimensional biobehavioral dynamics in laboratory rats. *Cell Rep.* 35:108987.
11. Yuan, T., Yan, N., Fei, T., Zheng, J., Meng, J., Li, N., Liu, J., Zhang, H., Xie, L., Ying, W., Li, D., Shi, L., Sun, Y., Li, Y., Li, Y., **Sun, Y.\*** & Zuo, E.\* (2021) Optimization of C-to-G base editors with sequence context preference predictable by machine learning methods. *Nat. Commun.* 12:4902.
12. Zhang, Y., Ye, F., Zhang, T., Lv, S., Zhou, L., Du, D., Lin, H., Guo, F., Luo, C.\* & **Zhu, S.\*** (2021) Structural basis of ketamine action on human NMDA receptors. *Nature* 596(7871):301-305.
13. Zeng, H., Huang, J., Li, J., Shen, Z., Gong, N., Wen, Y., **Wang, L.\***, **Poo, M.\*** (2021) Distinct neuron populations for simple and compound calls in the primary auditory cortex of awake marmosets. *NSR* 8(11):nwab126.
14. Wang, H., Lv, S., Stroebel, D., Zhang, J., Pan, Y., Huang, X., Zhang, X., Paoletti, P., **Zhu, S.\*** (2021) Gating mechanism and a modulatory niche of human GluN1-GluN2A NMDA

- receptors. *Neuron*. 109:2443-2456.
15. Zhang, B.\*, Kan, J., Yang, M., Wang, X., Tu, J. Dorris, M.\*(2021)Transforming absolute value to categorical choice in primate superior colliculus during value-based decision making. *Nat. Commun.* 12:3410
  16. Yang, Q., Zhai, Y., Wang, H., Zhang, X., Hu, G.\*, **Zhou, J.\***(2021) Nuclear isoform of FGF13 regulates post-natal neurogenesis in the hippocampus through an epigenomic mechanism. *Cell Rep.* 35:109127.
  17. Ma, G., Liu, Y., Wang, L., Xiao, Z., Song, K., Wang, Y., Peng, W., Liu, X., Wang, Z., Jin, S., Tao, Z., Li, C., Xu, T., Xu, F., **Xu, M.\***, Zhang, S.\* (2021) Hierarchy in sensory processing reflected by innervation balance on cortical interneurons. *Sci. Adv.* 7:eabf5676.
  18. Duan, C.\*, Pan, Y., Ma, G., Zhou,T., Zhang, S., **Xu, N.\***(2021)A cortico-collicular pathway for motor planning in a memory-dependent perceptual decision task. *Nat. Commun.* 12:2727.
  19. Liu, Y., Xin, Y., **Xu, N.\*** (2021) A cortical circuit mechanism for structural knowledge-based flexible sensorimotor decision-making. *Neuron*. 109:2009-2024.
  20. **Chang, L.\***, Egger, B., Vetter, T., Tsao, D.\* (2021) Explaining face representation in the primate brain using different computational models. *Curr. Biol.* 31:2785-2795.
  21. **Liu, Z.\***, Li, K., Cai, Y., Liu, Q., Zhang, T., Lu, Y., Nie, Y., Wang, Y., Yan, Z., Qu, Y., Li, Y., Wang, Z., **Xiong, Z.\***, **Sun, Q.\*** (2021) Accelerated passage of gene-modified monkeys by hormone-induced precocious puberty. *NSR* 8(7):nwab083.
  22. Xu, C., Zhou, Y.\*, Xiao, Q., He, B., Geng, G., Wang, Z., Cao, B., Dong, X., Bai, W., Wang, Y., Wang, X., Zhou, D., Yuan, T., Huo, X., Lai, J.\*, **Yang, H.\***(2021) Programmable RNA editing with compact CRISPR–Cas13 systems from uncultivated microbes. *Nat. Methods* 18:499-506.
  23. Wei, Y., Zhou, Y., Liu, Y., Ying, W., Lv, R., Zhao, Q., Zhou, H., Zuo, E.\*, **Sun, Y.\***, **Yang, H.\***, **Zhou, C.\***(2021) Indiscriminate ssDNA cleavage activity of CRISPR-Cas12a induces no detectable off-target effects in mouse embryos. *Protein Cell* 12(9):741-745.
  24. Liu, B., Tian, Q., **Gu, Y.\***(2021)Robust vestibular self-motion signals in macaque posterior cingulate region. *eLife* 10:e64569.
  25. Wang, F., Li, E., De, L., Wu, Q., **Zhang, Y.\***(2021) OFF-transient alpha RGCs mediate looming triggered innate defensive response. *Curr. Biol.* 31:2263-2273.
  26. Wang, G., Li, C., He, S., **Liu, Z.\*** (2021) Mosaic CRISPR-stop enables rapid phenotyping of nonsense mutations in essential genes. *Development.* 148:dev196899.
  27. Zhang, C., Kim, S., Li, J., Zhang, Y., Lv, Q., Zeljic, K., Gong, H., Wei, H., Liu, W., Sun, B., **Wang, Z.\***, Voon, V.\*(2021) Anterior limb of the internal capsule tractography: relationship with capsulotomy outcomes in obsessive-compulsive disorder. *J. Neurol. Neurosurg. Psychiatry.* 92:637-644.
  28. Wang, H., Zhu, Z., Li, Y., Lou, S., Yang, G., Feng, X., Xu, W., Huang, Z., Cheng, X., **Xiong, Z.\***. (2021) CDKL5 deficiency in forebrain glutamatergic neurons results in recurrent spontaneous seizures. *Epilepsia.* 62:517-528.
  29. Liu, K., Luo, J., Ma, T., Fang, M., Xu, Z., Wang, L., Zhang, X., Wen, J., Liu, C., Cao, Y., Li, X., Zhang, L., Wang, N., Gao, A., Yi, P., **Liu, J.\***. (2021) Germline mutation of PLCD1 contributes to human

- multiple pilomatricomas via PKD/ERK1/2 cascade and TRPV6. *J. Invest. Dermatol.* 141:533-544.
30. Wu, S., Li, X., Qin, D., Zhang, L., Cheng, T., Chen, Z., Nie, B., Ren, X., Wu, J., Wang, W., Hu, Y., Gu, Y., Lv, L., Yin, Y., \* Hu, X., \*, **Qiu, Z.** \*(2021) Induction of core symptoms of autism spectrum disorders by in vivo CRISPR/Cas9-based gene editing in the brain of adolescent rhesus monkeys. *Sci. Bull.* 66:937-946.
31. Zhan, Y., Wei, J., Liang, J., Xu, X., He, R. \*, Robbins, T., **Wang, Z.** \* (2021) Diagnostic classification for human autism and obsessive-compulsive disorder based on machine learning from a primate genetic model. *Am. J. Psychiatry* 178: 65-76.
32. Gao, N., Hu, J., He, B., Ji, Z., Hu, X., Huang, J., Wei, Y., Peng, J., Wei, Y., Zhou, Y., Shen, X., Li, H., Feng, X., Xiao, Q., Shi, L., Sun, Y., Zhou, C., **Zhou, H.** \* & **Yang, H.** \* (2021) Endogenous promoter-driven sgRNA for monitoring the expression of low-abundance transcripts and lncRNAs. *Nat. Cell Biol.* 23:99-108.
33. **Ye, Z.** \*, Zhang G., Zhang Y. \*, Li S., Liu N., Zhou X., Xiao W., Münte, T. \* (2021) The role of the subthalamic nucleus in sequential working memory in De Novo parkinson's disease. *Mov. Disord.* 36:87-95.
34. Xiong, M., Tao, Y., Gao, Q., Feng, B., Yan, W., Zhou, Y., Kotsonis, T., Yuan, T., You, Z., Wu, Z., Xi, J., Haberman, A., Graham, J., Block, J., Zhou, W., **Chen, Y.** \*, Zhang, S. (2021) Human Stem Cell-Derived Neurons Repair Circuits and Restore Neural Function. *Cell Stem Cell* 28:112-126.
35. Zhang, Z., Bai, L., Cong, L., Yu, P., Zhang, T., Shi, W., Li, F., Du, J. & **Wang, K.** \*(2021) Imaging volumetric dynamics at high speed in mouse and zebrafish brain with confocal light field microscopy. *Nat. Biotechnol.* 39:74-83.
36. Wang, Z., Li, Y., Yang, X., Wang, Y., Nie, Y., Xu, Y., Zhang, X., Lu, Y., Zhang, T., Liu, Q., Jing, N., **Liu, Z.** \*, and **Sun, Q.** \* (2021) Mitochondrial replacement in macaque monkey offspring by first polar body transfer. *Cell Res.* 31:233-236.
37. Lv, Q., Yin, D., Zhang, C., Sun, B., Voon, V. \*, **Wang, Z.** \*(2021) Neuroanatomical substrates and predictors of response to capsulotomy in intractable obsessive-compulsive disorder. *Biol. Psychiat.* 6:29-38.
38. Chen, X., Liu, Y., Xu, N., **Sun, Y.** \* (2021) Itch perception is reflected by neuronal ignition in the primary somatosensory cortex. *NSR.* nwab218.
39. Wang, F., Li, E., De, L., Wu, Q., Zhang, Y. \*(2021) OFF-transient alpha RGCs mediate looming triggered innate defensive response. *Curr. Biol.* 31(11):2263-2273.e3.